RESEARCH

DIGITAL NATIVE MEDIA AND DEPENDENCE ON NEWS AGENCIES IN SPAIN

Cibermedios nativos y dependencia de las Agencias de Noticias en España

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ABSTRACT

Dependence on news agencies is a fundamental issue in the media, especially in the case of native digital media. This research has proposed a quantitative analysis of the publication of content in four native media (El Confidencial, El Español, Voz Pópuli, El Diario.es) during four months (July, August, September, and October 2021) but signed by the Europa Press news agency. Quantification was applied to the total amount of content published, which was signed by Europa Press, and web traffic data. Based on this quantification, data visualization was applied to extract relevant results, detecting that each media outlet has a stable threshold of content produced by Europa Press compared to the total production. In addition, the results obtained show that in the analyzed period there is a negative statistical correlation (Pearson's correlation coefficient) between the publication of Europa Press content and web traffic.

Keywords: native digital media, news websites; digital journalism, news agencies, Europa Press.

RESUMEN

La dependencia de las agencias de noticias es una cuestión fundamental en los medios de comunicación, especialmente en el caso de los medios digitales nativos. Esta investigación se ha propuesto el análisis cuantitativo de la publicación de contenidos de cuatro medios nativos (El Confidencial, El Español, Voz Pópuli, El Diario.es) durante cuatro meses (julio, agosto, septiembre y octubre de 2021) pero firmados por la agencia de noticias Europa Press. Se ha aplicado cuantificación del total de

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contenidos publicados firmados por Europa Press y se ha consultado datos de tráfico web. Sobre esta cuantificación se ha realizado visualización de datos para la extracción de resultados relevantes detectando que cada medio tiene un umbral estable de contenidos elaborados por Europa Press respecto la producción total. Además, los resultados obtenidos señalan que en la franja analizada existe una correlación estadística negativa (coeficiente de correlación de Pearson) entre publicación de contenidos de Europa Press y tráfico web.

Palabras clave: medios digitales nativos, portales de noticias, periodismo digital, agencias de noticias, Europa Press.

Cibermídia nativa e dependência das agências de notícias na espanha

RESUMO

A dependência de agências de notícias é uma questão fundamental na mídia, especialmente no caso da mídia digital nativa. Esta pesquisa propôs a análise quantitativa da publicação de conteúdo de quatro mídias nativas (El Confidencial, El Español, Voz Pópuli, El Diario.es) durante quatro meses (julho, agosto, setembro e outubro de 2021), mas assinadas pela Europa Press News agência. Foi aplicada a quantificação do total de conteúdos publicados assinados pela Europa Press e consultados os dados de tráfego web. Com base nessa quantificação, foi realizada a visualização dos dados para extrair resultados relevantes, detectando que cada meio possui um patamar estável de conteúdo produzido pela Europa Press em relação à produção total. Além disso, os resultados obtidos indicam que no intervalo de tempo analisado existe uma correlação estatística negativa (coeficiente de correlação de Pearson) entre a publicação do conteúdo da Europa Press e o tráfego na web.

Palavras-chave: mídia digital nativa, portais de notícias, jornalismo digital, agências de notícias, Europa Press.

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1. INTRODUCTION

News agencies are organizations dedicated to the massive collection and sale of journalistic information mainly for the media, but also other clients such as financial institutions, governments, or individual consumers (Boyd-Barrett, 1998). Because of this supplier function, news agencies have enormous importance in the routines of the media, since approximately 50% of the published information comes from them (Arroyo, 2011) reaching even 75% (Clavero, 2016), although this percentage is variable depending on the media. On the other hand, although this dependence exists, it is important to bear in mind that indicating that a piece of information comes from a

news agency is not the most common thing in the traditional press (Gelado-Marcos, 2009[2]).

In this way, news agencies have provided journalistic coverage to media that otherwise would not be able to provide information on certain events (Artero and Moraes, 2008). However, their predominance as a source of information has sometimes been criticized for generating a "ventriloquist effect" (Arráez, 1998; de Dios et al., 2021) in which journalistic plurality is reduced.

Besides their nature as wholesale producers, news agencies have emerged as an essential resource for the media because of their status as a reliable source (Clavero, 2016) and especially because of their immediacy (Arroyo, 2011). This importance has been maintained in cybermedia whose need for simultaneity in the translation of information is even greater than with traditional media in a competitive media scenario (Nelson, 2020).

Cybermedia are those media with a journalistic will that use the Internet for the production and, above all, the dissemination of their journalistic products (Díaz-Noci and Salaverría, 2003). Within these, which are not necessarily "new media" (Cabrera et al., 2019), one can distinguish those that are digital natives when they do not represent the digital version of existing media. This conditioning factor should translate into greater independence (Harlow, 2021) and an alternative approach in the treatment of news events (Thomas and Cushion, 2019; Higgins-Joyce and Harlow, 2020), an issue empirically confirmed in some specific cases (López García and Valera Ordaz, 2013).

Native cybermedia, despite being in a growth phase in Spain (Salaverría et al., 2018), face an added challenge and that is their ability to be profitable without having the backing of an organization that precedes them (Negredo et al., 2020; Tejedor and Pla-Pablos, 2020; Vara-Miguel et al., 2021). Faced with this dilemma, the publication of news agency content could be a first-order resource to reduce costs (García, 2010) through technological investment and automation as is currently happening (Pérez et al., 2014), but also a risk by offering a product analogous to that of many other news portals.

2. OBJECTIVES

The purpose of this research is to compare, through data visualization, the use made of the contents of the Europa Press news agency (hereafter EP) by four digital native media: El Confidencial, El Español, Voz Pópuli, and El Diario.es. This object of study is significant in the sense that a key issue for digital native media is the balance between costs (reduced thanks to news agencies) and benefits (generated by increased web traffic).

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[2] This author's work combined interviews with professionals with content analysis of news published in 2005. Similar studies have not been conducted more recently.

From an interpretative perspective, this paper has sought to analyze the level of dependence of this representation of digital native media on the content offered by the private news agency with the highest turnover in Spain: Europa Press.

Thus, the total volume of published content, the proportion of news signed by news agencies, and the evolution of web traffic over time are presented as relevant variables. This issue is relevant because it can be related to the investment capacity of native media when it comes to providing first-hand information on events or taking advantage of news agencies' sourcing. On the other hand, despite the interpretative paradigm of this work, the statistical correlation (Pearson correlation coefficient) between EP content and web traffic was analyzed to confirm whether the conclusions observed intuitively through data visualization were supported by statistical analysis.

On the other hand, despite the exploratory nature of this work, it is possible to formulate some research questions about the results:

Do the four native media analyzed share the same publication dynamics throughout the months, is there a stable ratio between total published content and those specifically elaborated by EP, can a correlation be formulated between the publication of EP content and the web traffic of each media?

3. METHODOLOGY

To determine the degree of affiliation between the digital native media and the publication of content produced by EP, all the news published by the media outlets El Confidencial, El Español, Voz Pópuli, and El Diario.es were compiled. These media were chosen because they are the digital native media with the largest audience according to the GfK DAM report of July 2022[3]. The time frame included from July 1st to November 30th, 2021, the choice of this time frame included a holiday month to be able to corroborate if it affected the production of content.

Once all the news items had been quantified, those signed as Europa Press agency content were broken down. Contents covered by the agency and not cited in the text were not counted, nor were mentions of the agency that did not represent that the totality of the news was produced by it.

Once both data were obtained (total production and production signed by EP), we proceeded to calculate the proportion of EP content compared to the total content published. In this way, it has been possible to evaluate the dimension in which the media have a greater dependence on the news agency since the product is transferred in its entirety to its audiences, recognizing this through the signature and without any

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[3] Retrieved from: https://dircomfidencial.com/medios/el-confidencial-logra-acceder-al-top-5-de-audiencia-media-diaria-y-usuarios-unicos-20220818-0400/ on September 13th, 2022. Exceptionally, Voz Pópuli was included despite not being among the digital native media with the largest audience. The choice of this media was because its founding origin is linked to El Confidencial, which is currently the digital native media with the largest audience.

re-elaboration of the journalistic product (in a process that can be completely automated, as El Diario.es usually indicates).

In turn, the results on the volume of news published by the Europa Press news agency have been compared with the web traffic characteristics of each of the analyzed media to observe whether there is any correlation between the publication of content signed by EP and the visits received by each media outlet. To obtain data on web traffic, the web analytics portal Alexa.com was consulted.

All these data were transferred to graphical representations for the data visualization application. Data visualization is a multidisciplinary activity aimed at both the graphical representation of knowledge that is comprehensible in data and the discovery of information that cannot be apprehended by observing the data (Tukey, 1977). Its power lies in the fact that data visualization can convey potentially complex concepts in a universal form such as an image (Miller, 2017).

This research has applied data visualization for the generation of timeline charts that allow the understanding of phenomena in chronological order (Engebretsen and Kennedy, 2020). More specifically, a spreadsheet of the four months was used and exported to the data visualization program Flourish. Using these graphs, intuitive comparisons could be made between each of the media analyzed.

In turn, to corroborate the validity of the interpretations observed in the data visualization of the EP publication/web traffic relationship, the Pearson correlation coefficient analysis was carried out. In this way, it was determined whether the web traffic of the analyzed media was indeed correlated with the publication of EP content, in which direction it occurred (positive or negative), and the strength of this correlation.

4. RESULTS

4.1. Total production volume

The first variable analyzed was the total number of news items published by each of the media in the sample and the total number of news items signed as produced by the Europa Press news agency. The detailed results are shown in Table 1 and the graphical representation for their interpretation is in Figure 1.

As can be seen in Figure 1, El Diario.es published the most links during the entire period analyzed, reaching a maximum of 20,335 publications in November. In the second order of importance were El Español, El Confidencial, and Voz Pópuli.

One element that can be extracted from the data visualization is that all the media published less information during August except El Confidencial, which maintained a constant flat and slightly upward trend. This result, which goes against the general dynamics, could be explained by other research results that will be discussed later.

Table 1.

Monthly quantification of all content and all content prepared by EP published by the media El Confidencial, Voz Pópuli, El Español, and El Diario.es.

Media outlet	July		August		September		October		November	
	Total	EP	Total	EP	Total	EP	Total	EP	Total	EP
El Confidencial	6649	22	6731	63	6235	285	7508	242	7471	276
Voz Pópuli	2401	136	1871	136	2187	170	2524	177	2534	167
El Español	11268	509	9722	112	12086	784	13043	987	12794	968
El Diario.es	20271	3586	15844	2454	19716	4190	19556	4270	20335	4304

Source: Own elaboration with data obtained from the media.

Figure 1.

Timeline from July to November with the quantification of the total content published by the media El Confidencial, Voz Pópuli, El Español, and El Diario.es.
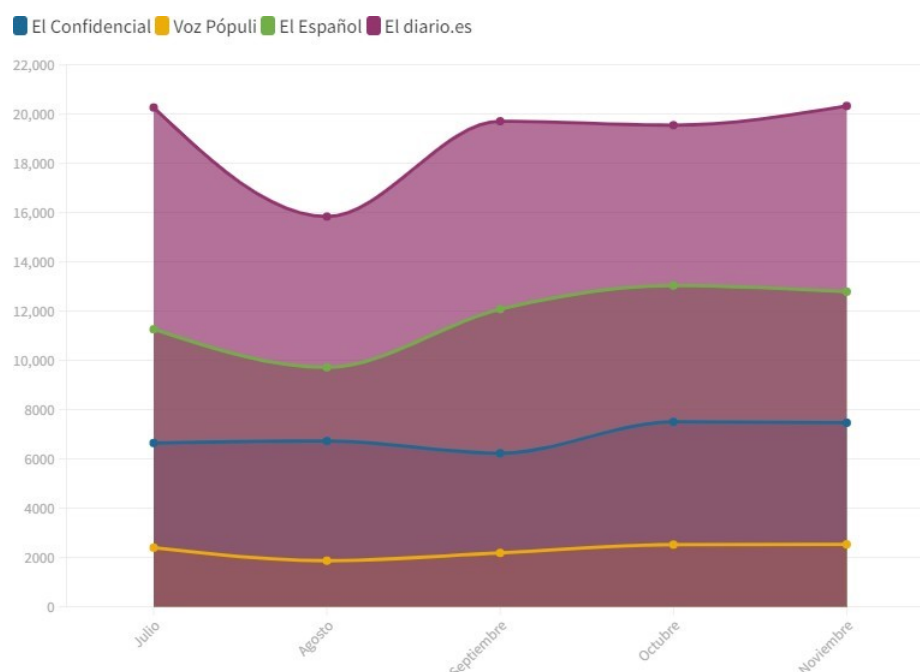
Source: Own elaboration.

4.2 Proportion of news items signed by EP

The result observed in point 4.1 indicates the total number of links published by the analyzed media. This data, although valued in raw form, is linked to the total number of links signed by EP, since presumably the greater the publication of content, the greater the growth in all its sections and sources of information. For this reason, it is more convenient to isolate not the total volume of links signed by EP (which can be

seen in Table 1) but the proportion of these compared to the total number of links published. This result can be seen in Table 2.

Table 2.

Proportion in percentage terms of all content prepared by EP published by El Confidencial, Voz Pópuli, El Español, and El Diario.es compared to all the content published each month.

Month	El Confidencial	Voz Pópuli	El Español	El Diario.es
July	0,3	5,6	4,5	17,7
August	0,9	7,3	1,1	15,4
September	4,6	7,8	6,5	21,2
October	3,2	7,0	7,6	21,9
November	3,7	6,6	7,6	21,1
Average	2,54	6,86	5,46	19,46

Source: Own elaboration.

Although the total number of links signed by EP is logically in line with the total number of links (as can be seen in Table 1), this disjunction is not apparent if we calculate the proportion in percentage terms of the total number of EP links compared to the total number of links published, although El Diario.es also maintains a predominant position (in October it reached 21.9% of the total number of links). That is, about a quarter of all the links published by El Diario.es explicitly recognized that it was material obtained by the news agency and that it had not received any changes in its translation to the media's audience.

However, in the rest of the websites analyzed, more heterogeneous results were observed, according to which the three portals have a similar dependence on the contents generated by EP which are finally published maintaining this labeling. A relevant fact is that, from a general perspective, the medium El Confidencial maintained an upward trend from 0.3% of links signed by EP in July to 3.7% in November (multiplying by 10 the results of July and by 5 those of August).

This result may not be decisive in isolation, but it induces a certain correlation with the data obtained in point 4.1 according to which El Confidencial has maintained a moderate growth in the volume of links not only in total terms (82 more links from July to August)[4] but also in proportional terms compared to the total number of links

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[4] And, likewise, in global terms there was also an increase in the number of links to EP content (from 22 in July to 63 in August) but this increase could be a result of the increase in the volume of all news items in this media outlet during August.

published (from 0.3% in July to 0.9% in August). These phenomena can be clearly seen by visualizing the data in Figure 2.

As can be seen in Figure 2, El Diario.es remains not only the media outlet with the highest total publication but also the media outlet with the highest percentage of links signed by Europa Press. In the same way, it can be seen that the four media moved in thresholds that do not show a clear long-term trend.

Figure 2.

Timeline from July to November with the proportion in percentage terms of the total content published by the media outlets El Confidencial, Voz Pópuli, El Español, and El Diario.es and produced by EP compared to the total content published.
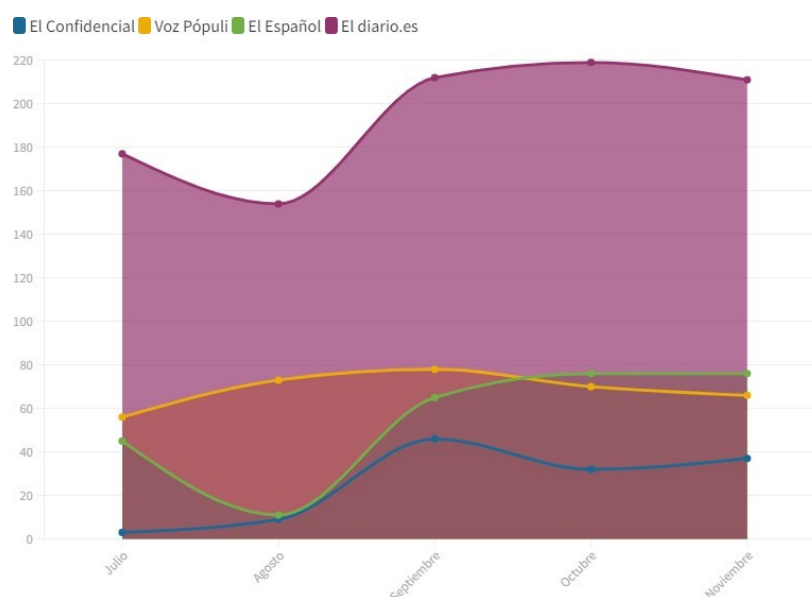
Source: Own elaboration.

4.3 Web traffic and total news produced by EP

A relevant issue when evaluating the success of a website is the measurement of its traffic. The Alexa.com portal offers, among other data, the ranking of each media outlet compared to all those indexed in its database. As can be seen in Table 3, the average ranking data indicates that El Español is the digital native media with the highest web traffic, since on average for the five months analyzed it had an Alexa ranking of 3,097. In second place are El Confidencial, El Diario.es, and (at a great distance) Voz Pópuli. On the other hand, El Español is the only media outlet that is not in a clearly negative trend, since the rest of the media have been worsening their position in the Alexa ranking (the higher the position in the ranking, the lower the web traffic in comparative terms) within the analyzed range.

Table 3.

Monthly ranking according to web traffic of the media El Confidencial, Voz Pópuli, El Español, and El Diario.es.

Month	El Confidencial	Voz Pópuli	El Español	El Diario.es
July	3.512	22.517	3.099	6.331
August	4.245	23.208	2.977	6.173
September	5.025	36.916	2.930	7.513
October	5.738	35.879	3.086	9.346
November	6.019	37.182	3.394	10.634
Average	4.907	31.140	3.097	7.999

Source: Own elaboration with data obtained from Alexa.com.

The comparison of these results with the total number of news items published and produced by EP can be visualized and shows, intuitively, a potential correlation as shown in Figure 3.

Figure 3.

Timeline from July to November with Alexa ranking and total content published by El Confidencial, Voz Pópuli, El Español, and El Diario.es and produced by EP.
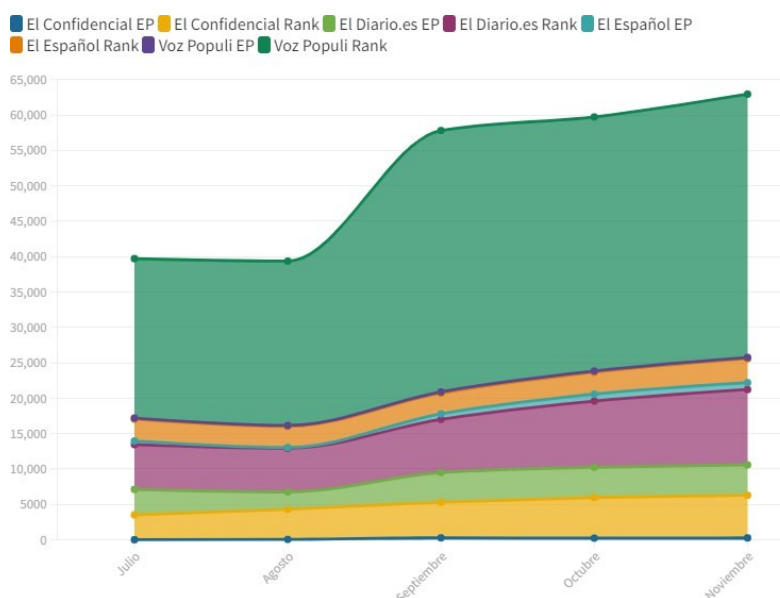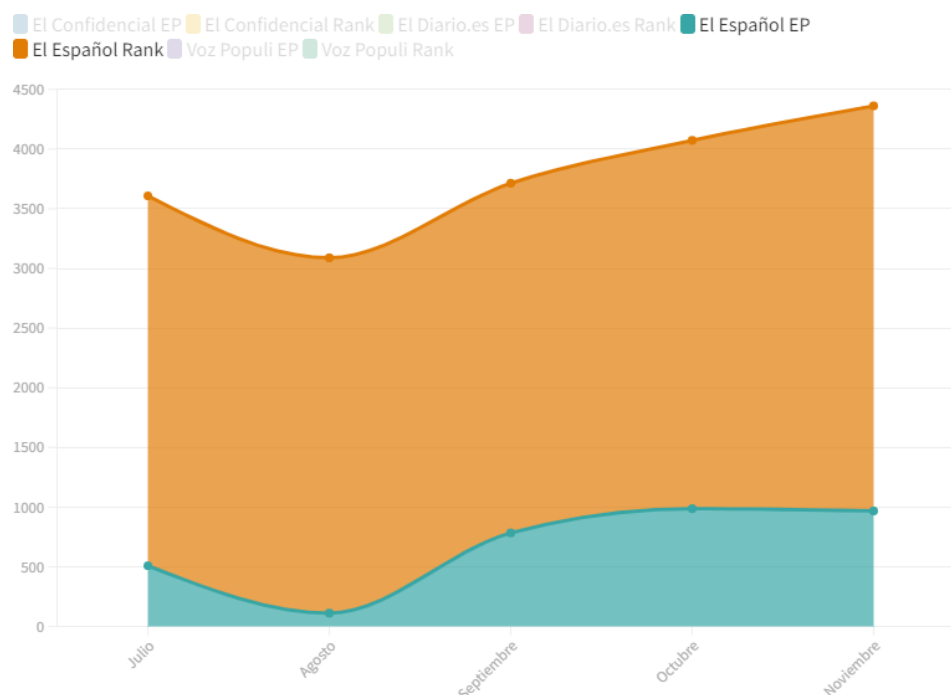

Source: Own elaboration.

However, by focusing on each of the analyzed media, it can be seen in detail that there are almost symmetrical trends. Figure 4 shows only the data related to El Español (EP published content and Alexa ranking).

Figure 4.

Timeline from July to November with Alexa ranking and total EP content published by El Español.
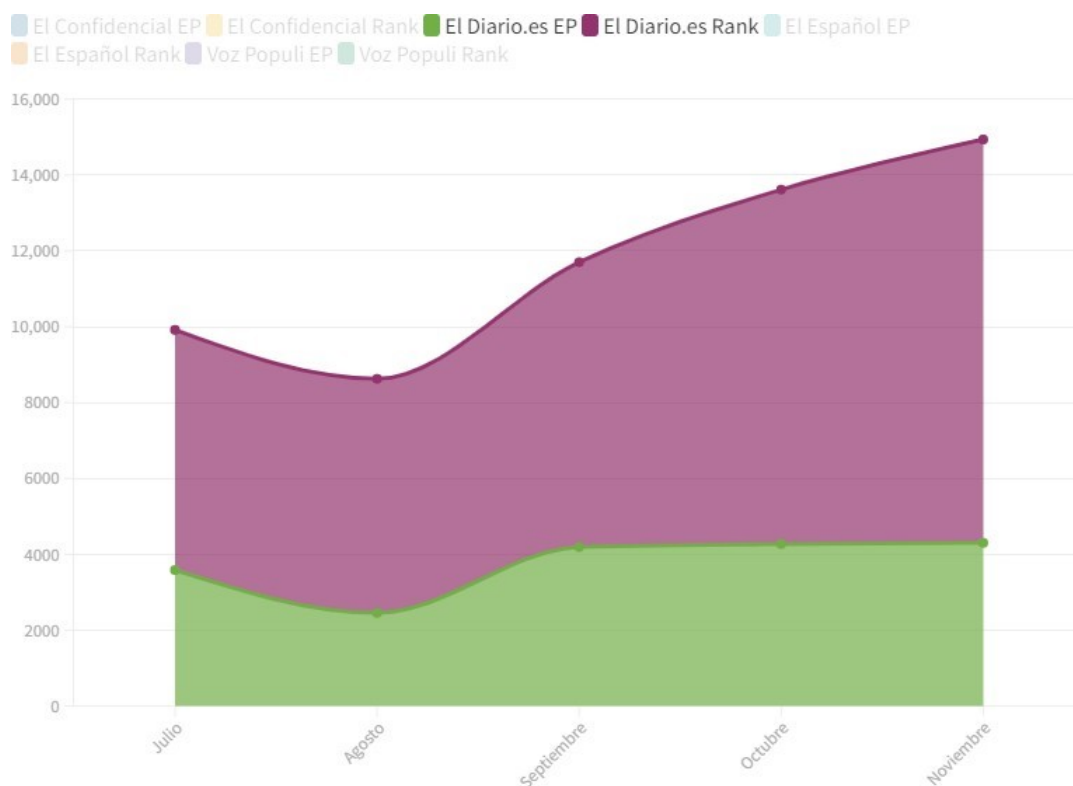

Source: Own elaboration.

Starting the analysis with El Español as it is the media outlet with the best ranking according to Alexa (Figure 4), similar trends can be seen, marked by a decrease in traffic and in the publication of news signed by EP during August. Both data synchronously improve in September and October until a slight deviation in November (the ranking according to Alexa worsens and the publication of EP content remains flat).

The most significant element, and one that is shared with the rest of the media in this study, is that it can be stated that a lower publication of EP content is in sync with an improvement in the Alexa ranking. To confirm this element, we checked for a correlation between the two variables using Pearson's coefficient, which showed a weak positive correlation (result 0.242).

However, the correlation during August may be due to an increase in traffic inherent to holidays in the same way that the reduction of EP content is related to the decrease in journalistic production. To confirm that this is not an isolated case, the situation in the rest of the media was analyzed.

Figure 5.

Timeline from July to November with Alexa ranking and total EP content published by El Diario.es.
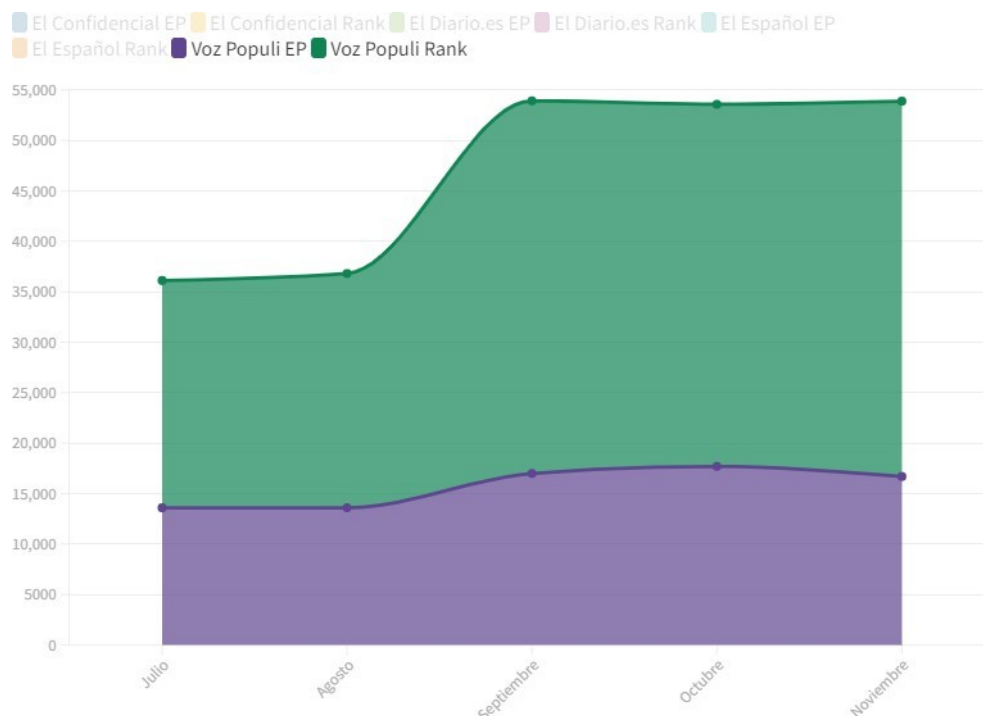

Source: Own elaboration.

In the case of El Diario.es, the analysis of ranking metrics and EP content shows almost identical results to those seen for El Español. Once again, both publication and ranking drop during August, rising in September, and it is at that moment that the ranking worsens ostensibly (the score becomes higher) and the total of EP published content stabilizes. This correlation was again confirmed using Pearson's correlation coefficient, again indicating a much stronger positive correlation than that existing in El Español (result 0.759).

The combination of the results obtained in the two media analyzed could indicate two simultaneous phenomena: one seasonal (drop in indicators in August) and the other in the long term (drop in the ranking of Spanish native media). This provisional hypothesis would be reinforced by the data obtained in Voz Pópuli.

Figure 6.

Timeline from July to November with Alexa ranking and total EP content published by Voz Pópuli. To improve interpretation, a 1:100 ratio has been applied (1.00% equals 100 published contents).
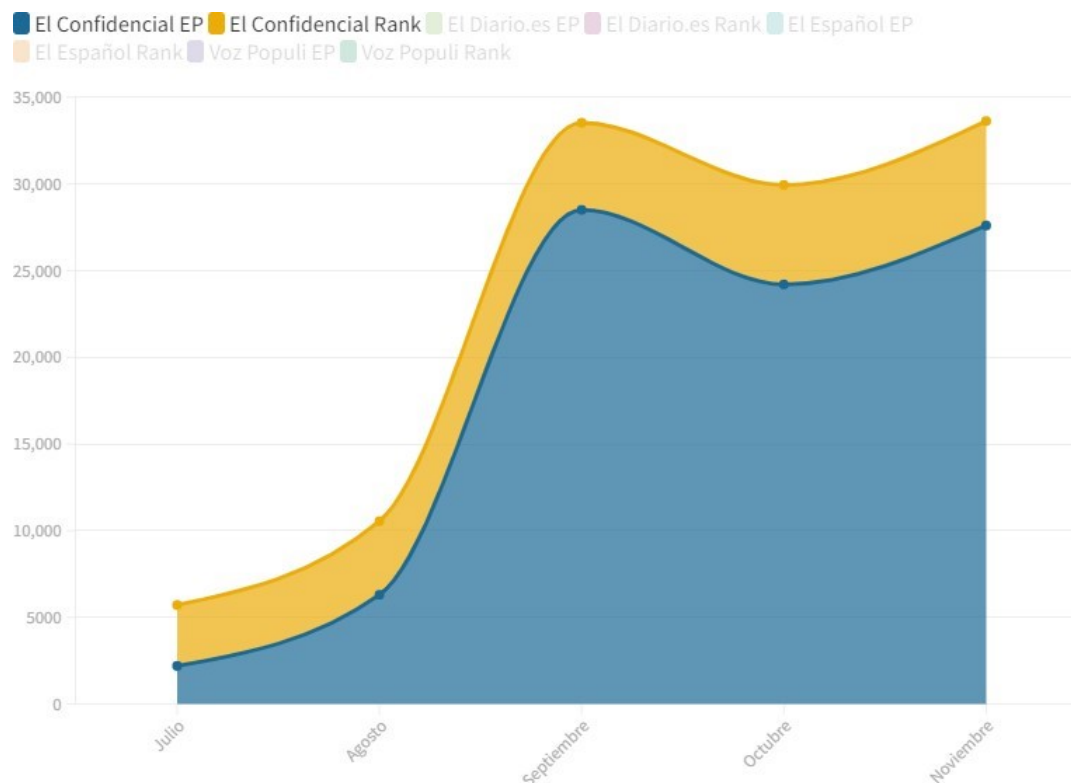

Source: Own elaboration.

Although the elasticity is lower in the case of the publication of EP content and higher in the loss of ranking in September, it can be seen in Figure 6 that the phenomenon observed previously is repeated with slight variations. It can be affirmed that the ranking and publication data of EP maintain the structure already seen but with greater statistical relevance than in El Español and El Diario.es. Specifically, the Pearson correlation coefficient was 0.982, which indicates a very strong positive correlation (when one variable increases, so does the other).

However, it is in the analysis of El Confidencial that the most striking results were found in the sense that they transcend the possible existence of exogenous variables (seasonality and constant loss of traffic in native media).

Figure 7.

Timeline from July to November with Alexa ranking and total EP content published by El Confidencial. To improve interpretation, a 1:100 ratio has been applied (1.00% equals 100 published contents).

Source: Own elaboration.

Figure 7 shows the correlation between the publication of EP content and web traffic (Alexa ranking) in El Confidencial. As can be seen, the greater the publication of EP content, the greater the loss of web traffic as measured by Alexa. This is a very significant finding that calls into question the provisional results obtained previously. However, although the data visualization leads to this finding, it should be taken into account that the statistical correlation significance was lower than that present in Voz Pópuli (result 0.840), although it still showed a consistent statistical correlation.

5. DISCUSSION

The results obtained in this research have yielded some data that would fall within the obvious. For example, it was to be expected that the native media in the sample would show a reduction in the publication of content during August due to its link with the summer vacations (seasonal component). In the same way, if the total amount of published content is reduced in its totality (an empirically demonstrated issue), the total amount of published EP content should also be reduced due to available space. This assumption was almost completely fulfilled (the medium El Confidencial was the only one that slightly increased the volume of EP content during August compared to July).

At another level of analysis, it was observed that the dependence on EP content compared to the total published is usually stable within certain ranges for each media outlet. Despite the movements that occurred in August (seasonal component), the analyzed media showed a stable trend (even Voz Pópuli did not suffer any drop during August). Within these ranges, the media with the highest dependence was El Diario.es with a fifth of its news coming entirely from EP (an average of 19.46% during the analyzed period).

This result questions or at least places in a state of gradation whether digital native media are really able to provide an alternative vision of journalistic production (Higgins Joyce and Harlow, 2020; Thomas and Cushion, 2019) partially delegitimizing the potential independence that would be inherent to this type of digital media (Harlow, 2021).

Finally, the comparison between EP content and audience (web traffic according to Alexa) provided more significant as well as more detailed information. The first observations showed how three of the analyzed media (El Español, Voz Pópuli, and El Diario.es) had similar behaviors during the analyzed period, both in terms of publication of EP content and web traffic. Specifically, in the section on the publication of EP content, there was a drop in August and an upturn in September, with stabilization in the following months.

Regarding web traffic, there was an evident increase in August (improvement in the Alexa ranking), followed by a recovery in September. However, in the following months, there was no stabilization in El Español and El Diario.es. This would have been expected if there was a negative correlation between the publication of EP content and web traffic (the higher the publication of EP content, the lower the web traffic). For this reason, a first approximation would suggest that the seasonal component (August) would act as a confounding variable.

In other words, there is no negative correlation and the symmetrical movement produced in August is only due to changes in audience behavior and lower journalistic production. In turn, the reduction in web traffic would be a constant background influence that could be extrapolated to all comparable digital media (such as those taken as a sample).

But considering these provisional results as valid, the constant loss of audience should have been reflected in the same way in Voz Pópuli. This situation did not occur and indirectly reaffirmed a potential negative correlation although the elasticity of the curve was different for this medium (content published by EP / Alexa ranking).

At this point, and with more doubts than answers, the analysis carried out on El Confidencial yielded crystal-clear certainties that could be seen in Figure 7. As can be seen in this chart, the negative correlation (or positive if ranking is measured instead of the audience) was exact between published EP content and web traffic. This result allows us to affirm that during the period analyzed there was a direct and evident link between content published by EP and a decrease in web traffic in El Confidencial.

However, at a statistical level, a clear positive correlation was detected at all times between the publication of EP content and loss of audience (understood as Alexa ranking). Notably, El Confidencial showed a coefficient of 0.840, and Voz Pópuli a coefficient of 0.982, when a result of 1 would indicate a perfect positive linear relationship. Therefore, it can be affirmed that in the period analyzed, the selected media showed a loss of audience in the same proportion in which they published content signed by EP.

At the same time, such a clear connection invites a different evaluation of the results obtained in other media, since the confounding variable might not be the seasonal component but a slight but permanent loss of audience in El Español and Voz Pópuli. Such a dynamic would be altered only in those cases in which the reduction of EP content was sufficient to modify the loss of audience (as in August).

6. CONCLUSIONS

This research has carried out a quantitative analysis of four of the most important native digital media in Spain: El Español, El Confidencial, Voz Pópuli, and El Diario.es. The framework for the analysis included the period from July 1 to November 30, 2021. Among the variables analyzed were the total content (links) published by each media outlet, the total content produced by Europa Press, the proportion of these compared to the total, and the web traffic of each media outlet using the Alexa.com ranking.

Thanks to the data visualization, the results obtained have allowed us to reach a set of conclusions. Firstly, the production of these native media is reduced during August, which is to be expected due to the journalistic activity (first research question). Secondly, the analyzed media have a general threshold regarding the proportion of content produced by Europa Press (second research question). This data may be a relevant indicator of the dependence of native media on the production of news agencies. In the case of El Diario.es, for example, this dependence reached almost 20%.

Finally, and as the most significant conclusion, this research has found a correlation between the publication of Europa Press content and web traffic (third research question). According to the empirical results of this work, during the analyzed period, the months in which more EP content was published generated a decrease in web traffic according to the ranking elaborated by Alexa.com. This phenomenon can be visually appreciated with total precision in the case of El Confidencial.com. Moreover, it is especially relevant that in all the analyzed media there was a positive statistical correlation (the more EP content, the higher the Alexa ranking and therefore the lower the web traffic). This finding can be considered of great value in two specific cases since the correlation for El Confidencial reached 0.84 and for Voz Pópuli 0.982 when a result of 1 would mean a perfect positive linear association.

On the other hand, as a limitation of the research, it should be taken into account that only links in which the authorship of EP has been acknowledged through the signature have been counted. Therefore, the dependence that has been detected would be regarding those contents that are evident to the audience as elaborated by the EP news

agency and, as a collateral effect, potentially introduced in the media in an automatic way.

This duality leads to the dichotomy of whether the possible negative bias of the audience (when accessing generic news agency content and not original media content) can be compensated by the cost reduction of introducing news automatically (without the intervention of a journalist from the media). The resolution of this dilemma for profit optimization can be solved by evaluating the savings generated by the inclusion of news from news agencies compared to the loss of income derived from the reduction of visits to the web (an essential issue for the sustainability of a native cybermedia).

In turn, the time frame analyzed does not allow us to confirm the hypothesis according to which the seasonal component is unable to predetermine the results obtained. On the other hand, there is no similar previous research that would make these results confirmatory. Such a question invites future research that, taking the same dates in subsequent years, could confirm or refute the results of this work.

In any case, this research has made relevant contributions to the academic community by applying a quantitative approach that has obtained conclusions concomitant with the positivist paradigm. In the same way, the contribution to professional practice could be significant if the aforementioned negative correlation between EP content publication and web traffic is confirmed. If so, it would represent a warning signal for the modulation of the cost-benefit ratio in the dependence of news agencies, since the advertising revenues of digital media are linked to the number of visits they receive.

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